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(81) Designated States (*national*): AE, AG, AL, AM, AT (utility model), AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ (utility model), CZ, DE (utility model), DE, DK (utility model), DK, DM, DZ, EC, EE (utility model), EE, ES, FI (utility model), FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK (utility model), SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

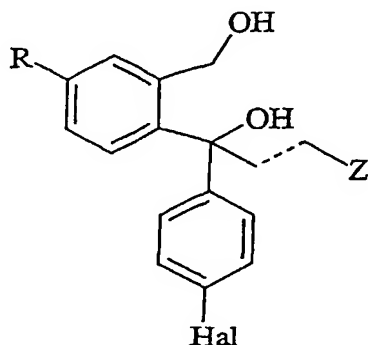
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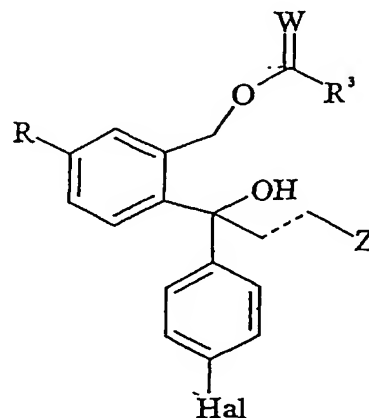
— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: METHOD FOR THE SEPARATION OF INTERMEDIATES WHICH MAY BE USED FOR THE PREPARATION OF ESCITALOPRAM



(II)



(IV)

(57) Abstract: The present invention relates to a novel method for the preparation of diol intermediates having the formula (II) and/or the opposite enantiomer of an acylated diol having the formula (IV) useful for the preparation of escitalopram involving selective enzymatic acylation or deacylation.

INTERNATIONAL SEARCH REPORT

1

International application No.
PCT/DK 03/00537

A. CLASSIFICATION OF SUBJECT MATTER

IPC7: C07B 57/00, C07D 307/87, C07C 255/53, C07C 253/34
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC7: C07C, C07D, C07B, C12P

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
SE,DK,FI,NO classes as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EPO-INTERNAL, WPI DATA, CHEM. ABS DATA

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 0012044 A2 (H. LUNDBECK A/S), 9 March 2000 (09.03.00), RN 260371-12-8, 260371-13-9, 260371-14-0, 260371-15-1, the claims, the examples --	1-98
X	EP 0347066 A1 (H. LUNDBECK A/S), 20 December 1989 (20.12.89) --	1-98
X	WO 9930548 A2 (H. LUNDBECK A/S), 24 June 1999 (24.06.99) --	1-98
A	US 4650884 A (KLAUS P. BOGESO), 17 March 1987 (17.03.87) --	1-98

☒ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

* Special categories of cited documents:

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier application or patent but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance: the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

13 November 2003

Name and mailing address of the ISA/
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Date of mailing of the international search report

19-11-2003

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/DK 03/00537

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 0216342 A1 (H. LUNDBECK A/S), 28 February 2002 (28.02.02) --	1-98
A	WO 0166536 A1 (RESOLUTION CHEMICALS LIMITED), 13 Sept 2001 (13.09.01) --	1-98
P,A	WO 03051861 A1 (H. LUNDBECK A/S), 26 June 2003 (26.06.03) --	1-98
P,A	WO 03000672 A1 (H. LUNDBECK A/S), 3 January 2003 (03.01.03) --	1-98
P,A	WO 03006449 A1 (H. LUNDBECK A/S), 23 January 2003 (23.01.03) -- -----	1-98

INTERNATIONAL SEARCH REPORT

International application No.
PCT/DK03/00537**Box I** Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☒ Claims Nos.: **54, 55, 57, 60 all in part**
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
see next sheet
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
☐ No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

International application No.
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The wording "or a mutant or variant" is not clear and concise.
See PCT Article 6. Therefore, the search is incomplete.

INTERNATIONAL SEARCH REPORT
Information on patent family members

06/09/03

International application No.
PCT/DK 03/00537

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